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STUDY ON MOTIVATION AND IMPLEMENTATION PROCESS OF ISO 9000
- A VIETNAMESE CASE -

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CHAPTER 1 RESEARCH BACKGROUND, OBJECTIVES AND METHODOLOGY

Over two decades of evolution, the quality management standards (ISO 9000 series) have been considered one of the most popular and successful standard in the world. According to the latest ISO survey (ISO survey of certification[23], 2008), by the end of December 2008, 982.832 certificates were being accredited in 176 countries. ISO 9000 is indeed a universal phenomenon. In the era of globalization, Vietnam started to adopt ISO 9000 standards in the 1990s and had the first company certified in 1995. Since then, the number of certified organizations has been increasing significantly. By the end of 2008, 3971 certificates were issued to organizations in Vietnam. The growth rate of ISO 9000 certificates is around 30% each year on average from 2000 to 2007. Benefits from ISO 9000 certification have also been recognized by organizations such as increased product quality, increased quality awareness among employees, improved organization image, increased customer satisfaction as reported in a survey of Vietnam Productivity Centre (VPC) from 2006 to 2008 (Anh[3], 2010).

Though ISO 9000 certification is becoming more and more popular in Vietnam, understanding of ISO 9000 standard itself and its implications are still vague to many organizations, even with certified organizations. Advertisement on mass media equates ISO 9000 standards with product standard is not uncommon. Some organizations pursue ISO 9000 certification simply because of following others like a fashion regardless of potential benefits or implications of certification. Some others adopt the certification because of government's request while some others do really want to make ISO 9000 a genuine tool for improving quality practices. Different reasons among Vietnamese organizations for the adoption of ISO 9000 certification motivated the author to conduct this research with desire to understand the motivation underlying ISO 9000 certification adoption and its impact on the implementation process. With hope to attain more insights in the ISO 9000 industry in Vietnam, this research could further contribute to a more sustainable development and implementation of ISO 9000 system in Vietnam.

1.1 OVERVIEW ABOUT ISO 9000 INDUSTRY IN VIETNAM

ISO 9000 standards were introduced into Vietnam since 1990s and the first company was certified in 1995. Over a decade, the number of certificates in Vietnam reached to 4282 by the end of 2007 and 3971 by the end of 2008. Figure 1-1 shows the total number of certificates in Vietnam over years. The figures of year 2000 to 2003 include both certificates of ISO 9001/2/3:1994 version and certificates of 9001:2000 version.

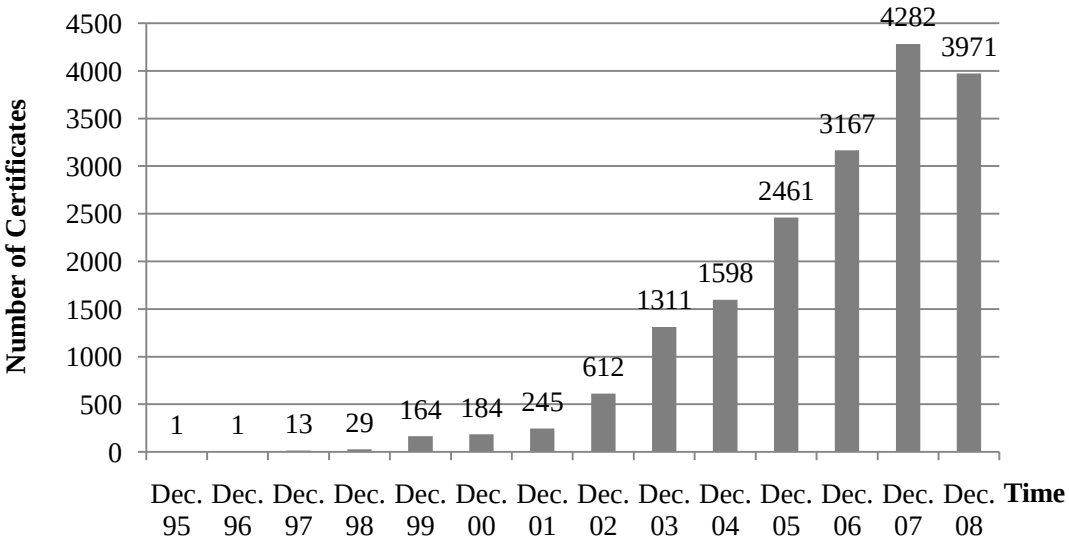

Figure 1-1 Total number of ISO 9000 certificates in Vietnam (Source: The ISO Survey of Certifications from 2000 to 2008[24], www.iso.org)

Despite the fact that ISO 9000 certification has been booming in the number, a unified and well structured database of ISO 9000 certificates or certified organizations could not be found. Information about ISO 9000 is scattered and mostly disseminated by certification bodies and consultancy firms in type of advertisement. This monotonous information channel embraces the vested interest of such business entities and often exaggerates the benefits of ISO 9000 while hiding all constraints in the dark side of the system. The limitation of such information made organizations, who wish to get insights of ISO 9000 before making decision whether to adopt the quality management system or not, having deviatory perception on ISO 9000 standards' pros and cons. For

confidential purpose, as it often be mentioned, certification bodies hesitated in providing updated list of certified clients. From State management perspective, STAMEQ (Directorate for Standard, Metrology and Quality - the authority in charge of accreditation, certification and standards related activities) could not provide a well database on ISO 9000 certification in Vietnam too. A list of ISO 9000 certified organizations is often easily obtained in other countries, such as from the Directory of Quality System Certificated Enterprises in China (CNAB) or from the Registrar of companies' database in Malaysia. This study had difficulties in searching such information in Vietnam.

Key stakeholders in the ISO 9000 industry in Vietnam include certification bodies, consultancy firms, training servicers, state management authorities (STAMEQ) and, obviously, certification seeking organizations. Currently, about 20 certification bodies are operating in Vietnam in the field of ISO 9000. Among them, only 11 certification bodies registered and accredited by the Bureau of Accreditation (BoA) of Vietnam under STAMEQ (according to the List of registered certification bodies dated 19 May 2009 available on the website of STAMEQ – http://portal.tcvn.vn). Accreditation is a voluntary based activity and, therefore, STAMEQ, as the regulator of the certification industry, has limited supervision or surveillance to control the market (Mekong economics[32], 2007). BoA might not know the exact number of certification bodies who are doing business in Vietnam, including some so-called fly-in certification bodies (certification bodies who come and provide certification but hasn't a representative office in Vietnam). Hundreds of consultancy and training companies are springing up like mushroom in the ISO 9000 training and consultancy business and trying to compete by price. As a result, quality of services is diminishing and indirectly affecting the quality of ISO 9000 system of client companies. Similar to the finding of Zeng, Tian and Tam[40] (2007) in China case, Vietnam has a phenomenon that some senior executives have unreasonable expectations of the ISO 9001 standard. They are enthusiastic about the benefits, including improvement in the productivity, efficiency, market share, and quality of final products, and pay no attention to the problems that arise, believing that certification will be a panacea for all. Once there were no obvious direct benefits, they began casting doubts on the standards (Conti, 2004 cited in Zeng, Tian and Tam[40], 2007).

A particular applicant of ISO 9000 certification in Vietnam is government agencies, State management authorities, and Municipal Committees as requested by the Prime Minister under the Decision No. 144/QD-TTg dated 20 June 2006 (Decision 144). According to the Decision 144, all the above mentioned entities should be certified by ISO 9000 by specific deadlines for each. These entities are hereinafter referred to as Public Service organizations. At present, around 463 public service organizations have been certified in Vietnam (according to QUACERT – Quality Certification Center under STAMEQ).

1.2 OBJECTIVES AND SCOPE OF RESEARCH

The research is conducted to study current situation of ISO 9000 application in Vietnam with desire to achieve four main objectives. The first objective is to obtain a comprehensive understanding about the motivation underlying the adoption of ISO 9000 certification in Vietnam. The second objective is to gain insights of the relationship between motivation and implementation process of ISO 9000 in Vietnam by answering the question: "How motivational factors impact on the implementation process underlying ISO 9000 certification?" The third objective is to contribute a subjective view on ISO 9000 implementation in Vietnam. The last objective is to raise some recommendations for a more effective and efficient ISO 9000 implementation to related stakeholders.

With the aim to explore the underlying motivation behind the ISO 9000 certification adoption and to answer the question "How motivational factors impact on the implementation process underlying ISO 9000 certification in Vietnam?", the research is conducted to organizations which have been certified and granted ISO 9000 certificates. Due to the time constraint and limited connection with the Southern part of Vietnam, the research can only study certified organizations in the Northern Provinces of Vietnam, mainly in Hanoi and surrounding provinces. Due to the lack of hard data describing companies' financial performance, the research analyzes the relationship between motivation underlying the ISO 9000 certification adoption and the implementation process and does not relate to the final outcomes of the ISO 9000 system, the business performance or

financial performance.

1.3 METHODOLOGY OF STUDY AND STRUCTURE OF THESIS

In order to obtain an insight of the underlying motivation in the decision to adopt ISO 9000 certification and the relationship between motivation behind ISO 9000 certification and implementation process, a thorough review on literature was conducted to form a framework for study. Data needed for analysis is collected from several sources including primary data and secondary data. To collect primary data, an empirical survey is organized to ISO 9000 certified-organizations in the North of Vietnam. Questionnaire is developed basing on existing literature and sent via emails to selected companies and to the appropriate personnel. After the initial analysis of data collected from survey, interviews to quality professionals are conducted to shed light on the relationship between motivation behind ISO 9000 certification and implementation process. The question to be answered is "How motivational factors impact on the implementation process of ISO 9000 in Vietnam?". Secondary data available in previous studies on ISO 9000 in Vietnam was also utilized as references. Since the research studies on the perception of quality professionals about the implementation of ISO 9000, the empirical study is deemed to be appropriate. Analysis of collected data is conducted from different aspects to understand the underlying motivation of ISO 9000 adoption among organizations in Vietnam. SPSS software is utilized with Test of Independence (Pearson's Chi-square test) and T-test to shed light on the associations among different factors such as motivation, size of organizations, industry in which organizations are operating, time of certification, implementation performance, maintenance performance, and barriers or constraints that organizations encounter during the implementation and maintenance processes of ISO 9000.

The thesis is organized in a sequence from general observation on situation of ISO 9000 in Vietnam, addressing the research interest and research question, doing the literature review related to the topic, presenting analysis' results and findings. The final research writing comprises of four chapters. Chapter 1 introduces the general picture of ISO 9000 in Vietnam and the motivation to undertake this topic for studying. The objectives of research, scope of study and the research

methodology follow by. Chapter 2 presents theoretical background for ISO 9000 study. A brief on ISO 9000 evolution is followed by summary of various study topics and methodologies used in the field of ISO 9000 to, finally, define the framework and methodology applied to the study. Chapter 3 summarizes the analysis' results of the survey from different angles. Summary of interviews with quality professionals is also compiled in the key findings. Chapter 4 discusses the key findings and the implications of the study. Some recommendations are proposed to stakeholders in ISO 9000 industry in Vietnam for a more efficient and effective ISO 9000 system.

CHAPTER 2 LITERATURE REVIEW

Chapter 2 introduces the theoretical framework of studies on ISO 9000 related topics which form a foundation for the study. The chapter is organized as follows: A brief on history and evolution of ISO 9000; Pros and cons of ISO 9000 certification; and studies on Motivation behind the ISO 9000 adoption and its impact on implementation process performance.

2.1 ISO 9000 HISTORY AND EVOLUTION

Transformed from standards in military, ISO 9000 series were first introduced in 1987 and evolved as a universal phenomenon. According to the ISO organization, the ISO technical committee (TC) 176, *Quality management and quality assurance*, was established in 1979 to facilitate the international trade by developing of internationally-recognized quality management standards at the time the fears of different national standards would be a barrier to international trade was increasing. The first standard issued by ISO/TC 176 was ISO 8402 (in 1986), which standardized quality management terminology. It was followed in 1987 by ISO 9001, ISO 9002 and ISO 9003, which provided the requirements for quality management systems operated by organizations with varying scopes of activity, from those including an R&D function, to those uniquely carrying out service and maintenance. These standards were completed by ISO 9004, providing guidance on quality management systems. The diffusion of ISO 9001 certifications started mostly in Europe. Then, European companies pressured their suppliers around the world to become also ISO 9001 certified and such suppliers sought certification as a protection mechanism against the perceived threat of having ISO 9001 certification to become an international trade barrier (Paula *et al.*[36], 2009). Although the USA and Japan strongly criticized the ISO 9000 standards as a major non-tariff trade barrier, they have experienced a major boom then (Karapetrovic *et al.*[26], 2010).

The first revision, ISO 9000:1994, emphasized quality assurance via preventive actions, instead of just checking final product, and continued to require evidence of compliance with documented procedures. Then, in the year 2000, the second revision ISO 9001:2000 combines the

three standards 9001, 9002, and 9003 into one, called 9001. Design and development procedures are required only if a company engages in the creation of new products. The 2000 version sought to make a radical change in thinking by placing the concept of process management front and centre ("Process management" was the monitoring and optimizing of a company's tasks and activities, instead of just inspecting the final product). The Year 2000 version also demands involvement by upper executives, in order to integrate quality into the business system and avoid delegation of quality functions to junior administrators. Another goal is to improve effectiveness via process performance metrics - numerical measurement of the effectiveness of tasks and activities. Expectations of continual process improvement and tracking customer satisfaction were made explicit. The latest version, ISO 9001:2008, was published on 15 November 2008. ISO 9001:2008 uses the same numbering system as ISO 9001:2000 to organize the standard. As a result, the new ISO 9001:2008 standard looks very much like the old standard. No new requirements have been added but some terminologies were brought out the meanings with clearer explanation for implementation and audit.

According to the latest ISO survey of Certification[23] (2008), by the end of December 2008, at least 982,832 ISO 9001:2000 certificates had been issued in 176 countries and economies. The 2008 total represents an increase of 31,346 (+ 3%) over 2007, when the total was 951,486 in 175 countries and economies as shown in Table 2-1.

Table 2-1 The World results of ISO 9000 certificates from 2004 to 2008 (Source: The ISO Survey of Certifications[23] 2008, www.iso.org)

	Dec. 2004	Dec. 2005	Dec. 2006	Dec. 2007	Dec. 2008
World total	660,132	773,867	896,929	951,486	982,832
World growth	162,213	113,735	123,062	54,557	31,346
Number of countries/economies	154	161	170	175	176

Figure 2-1 shows that the growth of ISO 9000 certificates in the last 3 years has been

decreasing. According to the ISO survey of certification, the year 2008 witnessed the decrease in certificates compare to 2007 in some top ten countries of certification such as: Japan – fell by 10,430 (-14%) to 62,746 certificates; USA – fell by 3,792 (-10%) to 32,400 certificates; and India – fell by 8,133 (-18%) to 37,958 certificates. In the ASEAN region, 6 out of 10 countries have reported the decrease in certificates such as: Malaysia – fell by 1,571 (-20%) to 6267 certificates; Thailand – fell by 640 (-10.8%) to 5275 certificates; Vietnam – fell by 311 (-7.3%) to 3971 certificates. Figure 2-2 shows the common trend of decreasing in number of certifications in three ASEAN countries.

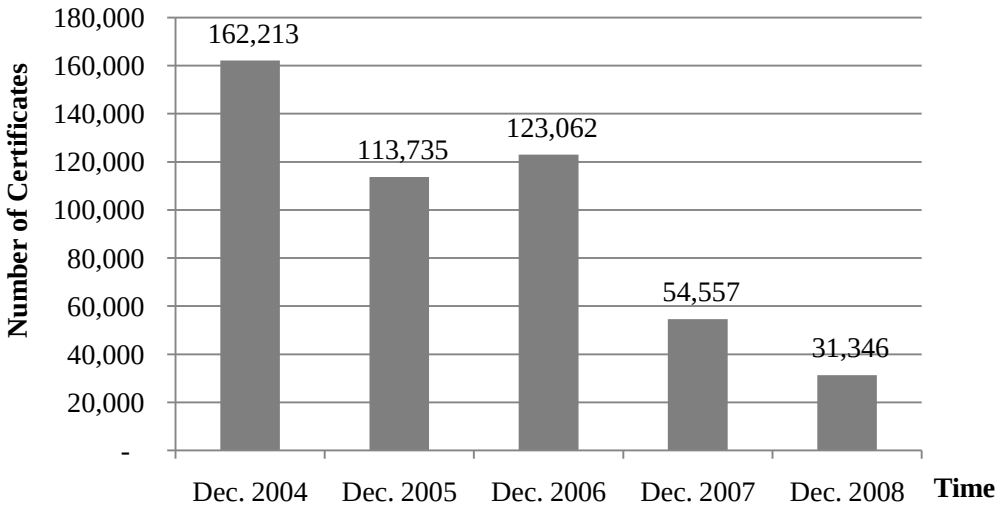

Figure 2-1 The annual growth of ISO 9000 certificates in the world (Source: The ISO Survey of Certifications[23] 2008, www.iso.org)

The possible reason for the decrease of certificates in some countries is the hit of world economic recession. Another explanation would be that those countries have reached to their "certification market saturation level" (Franceschini *et al.*[17], 2004) where the number of certified companies will be stable around. Saraiva and Duarte[41] (2003) used the number of ISO 9001 certificates per capita to build statistical models and perform an exploratory data analysis of registrations on a country by country basis, finding out that there seems to be a maximum number of ISO 9001 certificates per 1,000 inhabitants that can be reached, ranging between 1.2 and 1.6. According to this calculation method, the number of ISO 9001 certificates per 1,000 inhabitants of

Vietnam in 2008 is 0.044, meaning that the number of certificates in Vietnam will continue to increase until reaching the certification market saturation level and that the decrease of certificates in the year 2008 is temporary because of the world economic recession.

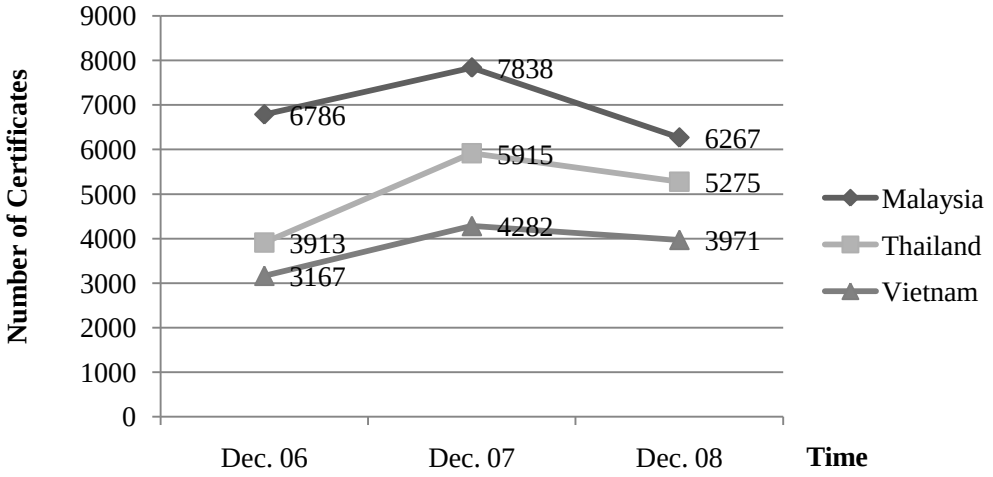

Figure 2-2 ISO 9001:2000 certificates from 2006 to 2008 in 3 ASEAN countries

2.2 PROS AND CONS OF ISO 9000

ISO 9000 certification brings about benefits to organization and, at the same time, may accompany by constraints and problems. The following section studies the literature about benefits and possible problems of applying ISO 9000.

2.2.1 Benefits of ISO 9000 certification

Since the birth of ISO 9000, ISO organization and Certification bodies have been repeatedly reporting the benefit of certification such as "consistently turn out product that satisfies customers' expectations" (ISO organization). Literatures have also identified the benefits of ISO 9000 certification in different classifications from different countries (Alex *et al.*[2], *2003)*. Through experience, benefits have been reported and claimed in empirical surveys (for example Huarng *et al.*[22], 1999; Escanciano *et al*[15]., 2001; Chow-Chua *et al.*[13], 2003; Walid[46], 2007).

Table 2-2 Benefits of ISO 9000 Certification (Source: adapted from Walid Zaramdini[46], International Journal of Quality & Reliability Management, Vol. 24 No. 5, 2007, pp. 472-491)

No.	Benefits	Type[a]	Sources
1	Improved product and/or service quality	I	Arauz and Suziki (2004), Brown *et al*. (1998), Escanciano *et al*. (2001), Singels *et al*. (2001)
2	Reduction in incidents, rejections and complaints	I	Arauz and Suziki (2004), and Escanciano *et al*. (2001)
3	Increased productivity and/or efficiency	I	Buttle (1997), Dick (2000), Gotzamani and Tsiotras (2002), Ha¨versjo¨ (2000), Jones *et al*.
4	Reduced internal costs	I	Arauz and Suziki (2004), Buttle (1997), Escanciano *et al*. (2001)
5	Improved profitability	I	Arauz and Suziki (2004), Buttle (1997), Dick (2000), Gotzamani and Tsiotras (2002),
6	Increased workforce motivation and retention	I	Buttle (1997), Brown *et al*. (1998), Escanciano *et al*. (2001), Gotzamani and Tsiotras (2002),
7	Employees become more quality aware	I	Brown *et al*. (1998), Chow-Chua *et al*. (2003), Dick (2000), Quazi and Padibjo (1998),
8	Improved processes and procedures	I	Arauz and Suziki (2004), Chow-Chua *et al*. (2003), Poksinska *et al*. (2002)
9	Elimination of redundancy or unnecessary work	I	Chow-Chua *et al*. (2003), McLachlan (1996)
10	Better working environment	I	Escanciano *et al*. (2001)
11	Better customer service	I	Arauz and Suziki (2004), Buttle (1997
12	Increased customer satisfaction	E	Arauz and Suziki (2004), Buttle (1997), Lee (1998), McLachlan (1996), Gotzamani and
13	Reduction in the number of customer audits	E	Buttle (1997), Escanciano *et al*. (2001
14	Expansion to international markets	E	Chow-Chua *et al*. (2003), Brown *et al*. (1998), Buttle (1997
15	Greater competitive advantage	E	Dick (2000), Gotzamani and Tsiotras (2002), McLachlan (1996), Quazi and Padibjo (1998)
16	Effective promotional and/or marketing tool	E	Buttle (1997)
17	Improved market share	E	Brown *et al*. (1998), Dick (2000), Jones *et al*. (1997), McLachlan (1996), Santos and
18	Suppliers' quality improved	E	Escanciano *et al*. (2001)
19	Established and/or improved mutual cooperation	E	Arauz and Suziki (2004), Escanciano *et al*. (2001)
20	Organization's image in the market improved	E	Chow-Chua *et al*. (2003), Tsiotras and Gotzamani (1996), Vloeberghs and Bellens (1996)

Note: [a] E for external and I for internal

Walid[46] (2007) summarized numerous literature that have study on benefits of ISO 9000 certification in Table 2-2 in which the author clarified 20 perceived benefits into internal and external benefits. In a longitudinal empirical study developed and conducted over a period of eight years, with three surveys organized in 1998, 2002 and 2006, respectively in Spain, Karapetrovic *et al.*[26] (2010) reported a continued decrease in the benefits of ISO 9001 registration overall. However, the benefits which are directly related to the objectives of an ISO 9001 quality management system, as stated in the ISO 9001:2000 standard, are still dominant and reported by a large majority of companies.

2.2.2 Constraints of ISO 9000 certification

Despite the benefits of ISO 9000 certification have been appreciated, constraints, on the other hand, are also accompanied by. From strategic point of view, the fit of ISO 9000 to the organization's culture and climate (Avinash[5], 2009), and existing quality measures within the organization (Arauz *et al.*[4], 2004) is critical to the level of success or failure. In a conceptual study, Hazman *et al.*[21] (2009) found that the more mechanistic and explicit knowledge based organizations will enjoy ISO 9000 certification while the more organic and tacit knowledge based organizations will experience tensions arising from lack of fit. The author concluded that creativity oriented strategies will find the standard quite dysfunctional. Juran (1999, cited in Jang *et al.*[47], 2008) stated that *"it appears that companies that are at the beginning stages of their quality journeys find that the ISO 9000 series of standards provides them with a guide for implementing a basic quality system. But for companies with good quality systems, the standard often just adds costs, delays and burdensome documentation, rather than providing any competitive advantage."*

External requirements, which pressure the organizations in adopting ISO 9000 certification, may not meet the needs, culture, managerial style or size of an organization, hence leading to the adoption of ISO 9000 as a sort of managerial fashion based on rhetoric rather than the internalization of new practices (Abrahamson, 1991, cited in Boiral[35] 2007), and possibly reinforcing some internal problems associated with certification. Literature has found that internal problems may arise to the

surface of ISO 9000 implementation when the system was not installed and implemented properly. Most of these internal problems are related to human resources, bureaucracy, auditing and overall confidence in the standard's proposals (Boiral *et al.*[35], 2007). First, the mobilization of human resources appears to be both one of the main difficulties associated with implementing the standard and a key factor for a successful certification process (Wahid *et al.*[39], 2009; Gustafsson *et al.*[20], 2001; Fuentes *et al.*[18], 2003; Carlsson and Carlsson[12], 1996). Second, the adoption of ISO 9000 can create more bureaucracy (Dissanayaka *et al.*[14], 2001; Boiral[35], 2007). Third, some studies have emphasized the pervasive effects of auditing processes: costs, red tape and superficial checking, auditors' lack of credibility, etc. (Boiral[35], 2007, Zeng *et al.*[40], 2007). Furthermore, certification audit requirements seem somewhat flexible, depending, for example, on the auditor performing the external audit (Boiral[35], 2007). Last minute preparation for an audit is not uncommon, revealing a lack of integration of the standard (Naveh and Marcus, 2005, cited in Boiral[35] 2007). Finally, managers and employees may be dubious and mistrustful about the intrinsic relevance of ISO 9000 proposals and its latest version introduced in 2000, causing them to pay lip service only to the system (Boiral[35], 2007).

2.3 MOTIVATION UNDER ISO 9000 ADOPTION AND ITS IMPACTS

Karapetrovic *et al.*[26] (2010), by observing empirical studies on ISO 9000 in years, saw that most empirical studies on ISO 9000 at first referred to the companies' motivations to implement the standard. Subsequently, the implementation process and, finally, the standard's impact were analyzed. In the first wave of study on motivation behind the adoption of ISO 9000 certification, researchers defined the terminology of motivation and studied from variety of angles. Kunda (1990, cited in Jang and Lin[47], 2008) defined motivation as "*any wish, desire, or preference that concerns the outcome of a given reasoning task*". Motivation is classified differently depended on the author's purposes in studying motivation under different circumstances. Notably, motivation is classified into Internal Motivation and External Motivation. (Singels *et al.*[42], 2001) defined: Internal motivations describe organizations wishing to become certified because the members feel the need to do so;

external motivations refer to organizations gaining ISO 9000 certification owing to external pressures. In other words, internal motivations are related with the goal of achieving organizational improvement, while external motivations are mainly related with promotional and marketing issues, customer pressures, improvement of market share, etc. (Buttle[10], 1997; Jones *et al.*[25], 1997; Mo and Chan[33], 1997; Brown *et al.*[8], 1998; Bryde and Slocock[9], 1998; Lee and Palmer[28], 1999; Lipovatz *et al.*[29], 1999; Escanciano *et al.*, 2001a[15]; Gustafsson *et al*[20]., 2001; Torre *et al.*[45], 2001; Gotzamani and Tsiotras[19], 2002; Poksinska *et al.*[37], 2002; Alex *et al.*[2], 2003; Llopis and Tarí[30], 2003; Magd and Curry[31], 2003a).

Escanciano *et al.*[15] (2001) found that Spanish companies were more motivated to pursue the certification for internal reasons rather than for external ones. At the same time, some studies suggested that the most prominent reason for implementing ISO 9000 is that customers prefer to buy from suppliers that are ISO certified (Carlsson and Carlsson[12], 1996; Rao *et al.*[38], 1997; Jones *et al.*[25], 1997; Acharya and Ray[1], 2000; Yahya and Goh[48], 2001; Bhuiyan and Alam[6], 2005). Boiral *et al.*[35] (2007) summarized that external motivation and internal motivation are two complementary dimensions as emphasized in most of studies on motivation and organizational implications of ISO 9000 implementation.

In another classification, from Taiwan, Huarng *et al.*[22], 1999 suggested active, passive and international motivations. According to the authors, active motivation means incorporating ISO 9000 as one part of the overall effort toward advancing TQM while passive motivation refers to obtaining ISO 9000 for the sole purpose of getting the certificate. The authors added one new subset international motivation in order to shed light on the linkage of ISO 9000 and international business. Using empirical study, the authors saw that appropriate combinations of factors will yield positive outcomes, for example with more positive attitudes, more use of computerized information system, and more involvement of employees, implementing ISO 9000 could give company more help in enhancing product quality. Followed Huarng *et al.*[22] (1999), Arauz and Suzuki[4] (2004), in a study on 292 ISO 9000 certified companies in Japan, classified motivation into direct, indirect and oversea motivations. Of which, direct motivation, indirect motivation and oversea motivations are defined

exactly as active, passive and international motivations, respectively in the proposal of Huarng *et al.*[22] (1999). By statistical data analysis, Arauz and Suzuki[4] (2004) suggested that the integration of influential issues within the organizational system allows the organization to achieve quality improvement, cost reduction, international market enlargement, and profits through ISO 9000. Jones *et al.*[25] (1997) studied the reasons of certified Australian companies. They divided them into three categories: "developmental", "non-developmental" and "mixed". Companies, which belonged to the first category, were motivated by the internal benefits obtained from the certification process like the improvement of the "company's internal processes" or "business performances", whereas companies belonging to the "non-developmental" category were pushed towards certification by the market forces (explicit demand of important customers or necessary condition to bid for government tenders). The "mixed" category regrouped companies having both types of reasons. In fact, the developmental reasons are synonymous with the internal reasons, and the non-developmental reasons are synonymous with the external ones. Out of the 272 companies that replied to their mail questionnaire, only one company in every seven pursued the certification for developmental reasons (internal reasons). Among many different classification of motivation, the internal and external motivations classification is adopted for the purpose of studying on the motivation underlying the ISO 9000 certification and implementation process in Vietnam.

Boiral *et al.*[35] (2007) developed a typology based on motivational factors proposing four integration rationales (quality enthusiasts, ISO integrators, ritual integrators, and dissidents) as shown in Figure 2-3. Based on the relative importance of the external and internal motivations for adopting the standard, the authors defined four groups as follows:

1) *Quality enthusiasts*. Who consider that the standard meets strong internal as well as external requirements; therefore, they appear to be the most convinced of the relevance of this system.
2) *Ritual integrators*. Who consider that the adoption of the standard is justified primarily by commercial pressures and that its usefulness as a management tool is very debatable.
3) *ISO integrators*. Who believe that the internal improvements that the standard can bring

about are more important than its commercial aspects.

4) *Dissidents*. Who are characterized by relatively weak internal and external motivations: they appear to be the most inclined to contest the standard's legitimacy.

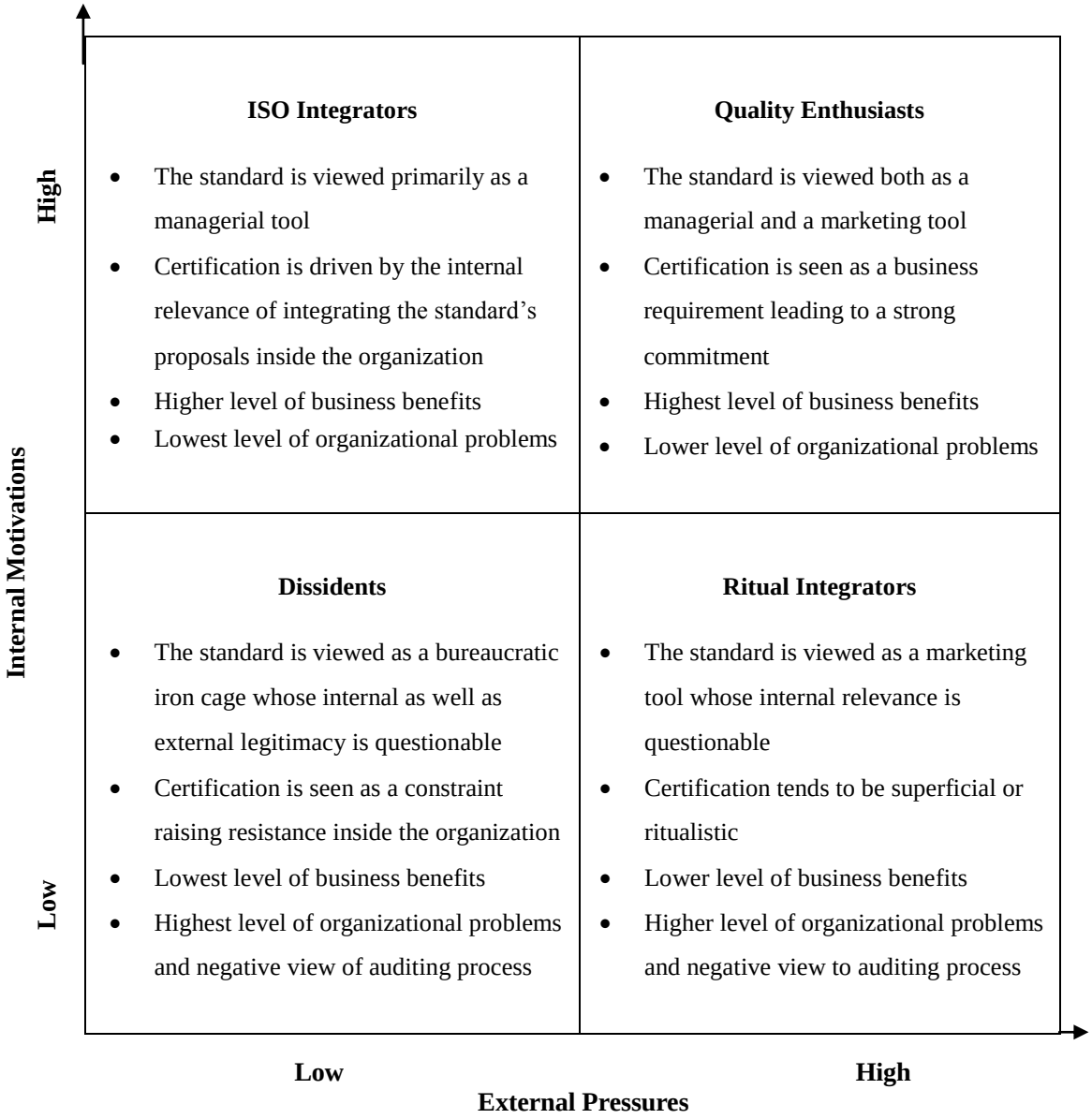

Figure 2-3 Integration rationales and expected relations (source: Olivier Boiral and Marie-Jose´e Roy[35], 2007)

The authors developed the typology with aim to characterize certified firms and predict potential consequences including organizational problems and the possible ineffectiveness of ISO

9000 certification, which were often overlooked in many studies, depending on the integration rationale. The typology sheds light on the links between the type of motivations underlying the adoption of ISO 9000 and the benefits or internal problems associated with this adoption. 872 certified Canadian companies were examined with the typology and the results demonstrated that the nature and intensity of motivations behind a decision to adopt the ISO 9000 standard play a key role in the success of the implementation process and the emergence of organizational problems arising from certification. The study on ISO 9000 in Vietnam will try to categorize the ISO 9000 certified organizations that could predict the pattern of successful organization as well as the potential problems that organizations may encounter during the process of developing, implementing and maintaining the ISO 9000 system.

In a recent study, Jang and Lin[47] (2008) analyzed data obtained from 441 companies in Taiwan to examine how motivation impacts on the depth of ISO 9000 implementation and how the depth of ISO 9000 implementation impacts a firm's performance in Taiwan. The authors constructed a conceptual model as shown in Figure 2-4 with hypothesized relationships between three components. The first component describes the effect of motivations on the depth of implementation of ISO 9000 when the second component describes the effect of the depth of ISO 9000 implementation, and the third component describes the relationships among different dimensions of firm performance.

The authors found that a positive relationship exists between the extent to which companies implement ISO 9000 and the companies' performance. Additionally, internal motivation fully mediates the relationship between external motivation and ISO implementation depth. Furthermore, the implementation of ISO 9000 directly and positively influences operational performance and indirectly affects market performance, in turn positively impacting business performance. In a more detailed illustration, the authors concluded that the internal motivation was found positively correlated with the implementation depth, while no significant relationship was found to exist between the external motivation and the implementation depth, and the external motivation was positively related to internal motivation. They inferred that internal motivation is important to ISO

9000 implementation depth, and internal motivation mediates the relationship between external motivation and ISO 9000 implementation depth.

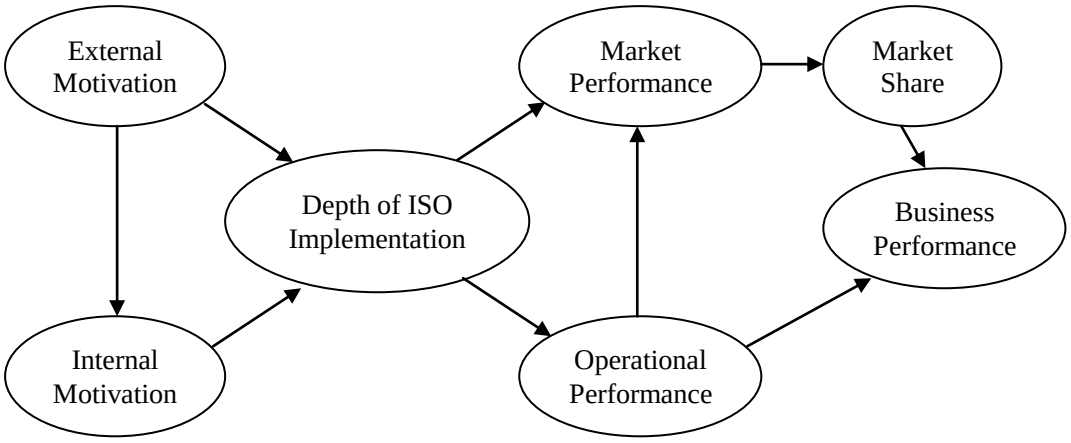

Figure 2-4 Conceptual model constructed by Jang and Lin (source: Jang and Lin[47], 2008)

The objectives of study on motivation and implementation process of ISO 9000 in Vietnam are more focused on the relationship between motivation and implementation performance, maintenance performance, and the barriers. The conceptual model is developed in Figure 2-5. Following the suggestion of Paula *et al.*[36], 2009, the study on the influence of industry, size of organization and time of certification to the motivation and implementation process of ISO 9000 is carried out. Hypotheses are set and tested to see whether the associations between factors are existed or not. The hypotheses are set as following: associations exist between Motivation and Implementation performance (H1), Motivation and Maintenance performance (H2), Motivation and Barriers (H3), Industry and Motivation (H4), Industry and Implementation, Maintenance, Barriers (H4a,b,c), Size of organization and Motivation (H5), Size of organization and Implementation, Maintenance, Barriers (H5a,b,c), Time of certification and Motivation (H6), Time of certification and Implementation, Maintenance, Barriers (H6a,b,c).

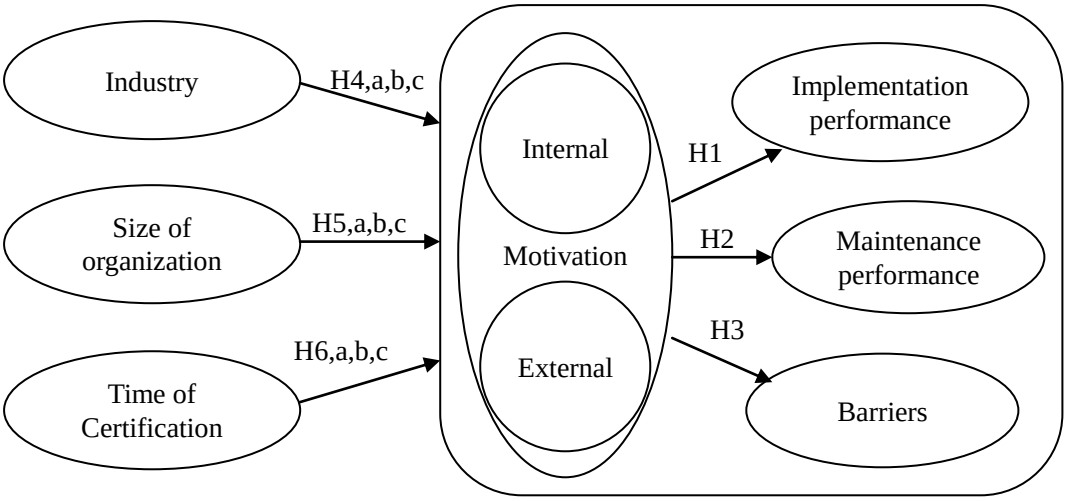

Figure 2-5 Conceptual model

In a literature study, Paula *et al.*[36] (2009) addressed the major questions which researchers had been trying to answer and the research methodologies were used in the ISO 9000 related topics. They found that the most common methodology adopted by different authors is doing survey. Karapetrovic *et al.*[26] (2010), in a summary of an eight year study on ISO 9000, found that 115 different mail survey studies were published in operations and quality management journals. The study on ISO 9000 in Vietnam contributes additional effort to the world map of literature and also employs the survey methodology. The questionnaire is designed basing on thorough review on literature (Huarng, Horng, and Chen[22] (1999), Arauz, and Suzuki[4] (2004), Zeng, Tian and Tam[40] (2007)) which were empirically tested and proved valid for this type of research. Items are measured using the respondent's perception of several aspects of the ISO 9000 process. Perceptual measures are often used in empirical operations management literature and are considered to satisfy reliability and validity requirements (Ketokivi and Schroeder[27], 2004). Language used for questionnaire is in Vietnamese with precise wording containing 44 questions. Of which, 6 questions in the first part covered general information regarding to industry, ownership, time of certification, time spent for system development, main market and number of employee (size of company). The second part comprises of 10 questions (based on Huarng, Horng, and Chen[22] (1999), Arauz and Suzuki[4] (2004))

about motivations to adopt ISO 9000 certification and are asked in ranking scale from highest priority to lowest priority, from 1 to 10 respectively. The third part deals with implementation process containing 16 statements (based on Huarng, Horng, and Chen[22] (1999), Arauz and Suzuki[4] (2004)) covering main areas of ISO 9000 application including management commitment, involvement of employees, documentation, adherence to document system, education and training, internal audit, and customer focus. Maintenance and continuous improvement, which were emphasized as the core of ISO 9001:2000 and the latest version ISO 9001:2008, are stated in 6 statements in the fourth part (based on Arauz and Suzuki[4] (2004)). The final part, the constraints during the implementation of ISO 9000 appears in the 6 statements. From part 3 to the last, the bipolar comparison scale, where 1 means strongly disagree and 4 means strongly agree, is used for respondent's judgment. In case of irrelevant statement to the real situation of the respondent's organization, the choice of 0 (zero) is made available. The four-point interval is chosen to avoid the occurrence of the central tendency error. Questionnaire form is attached in Appendix 1. SPSS software is utilized for analysis of data collected from the survey. Simple tools of SPSS, such as Pearson's Chi-square test and T-test, are used to test the associations in hypotheses and analyze the data gathered from sampled organizations.

CHAPTER 3 MOTIVATION AND IMPLEMENTATION PROCESS ANALYSIS

Chapter 3 presents the results of the survey and interviews on motivational factors and implementation process of ISO 9000 in Vietnam. The content is organized in three sections including data collection method, data analysis's results and discussions on the results.

3.1 DATA COLLECTION

Data used for analyzing the role of motivation on implementation process of ISO 9000 in Vietnam was collected mainly from an empirical survey. Questionnaire was develop and sent via emails to 250 certified-companies and organizations in the Northern Vietnam. Since there is no unified public list of ISO 9000 certified-organizations in Vietnam, the targeted companies were chosen from a list of clients of a consulting firm which currently has the biggest market share. The questionnaire addressed to the person most involved in ISO 9000 implementation process including quality managers, quality representatives of ISO 9000 certified-organizations. The possible constraint is because their employment depended upon the standard, they would be unlikely to be overly critical (Alex et. al.[2], 2003). To avoid that constraint, the questionnaire did not ask to provide personal information. Additionally, to increase the response rate as well as the accuracy of information, the questionnaire offered respondents a final report after the analysis. After the analysis of survey's data showed some initial findings, interviews with quality professionals including 2 Quality Management Representatives (QMR), 2 quality auditors and 2 consultants were conducted to get more insights of the initial findings. Quality auditors and consultants were interviewed in order to get balanced views among ISO 9000 related stakeholders.

Table 3-1 Description of Survey Respondents

Descriptions (frequency)	Count	Percentage
Type of industry:		
Manufacturing	39	*53%*
Service[5]	19	*26%*
Construction	9	*12%*
Public Service	6	*8%*
Ownership:		
SOE[1]	23	*34%*
FDI[2]	6	*9%*
Joint Venture	5	*9%*
Joint Stock	23	*33%*
Private	10	*15%*
Time of certification:		
Less than 3 years	10	*15%*
3 to 5 years	21	*31%*
More than 5 years	36	*54%*
Main market		
Domestic	37	*55%*
International	4	*6%*
Domestic and Intl'.	26	*39%*
Company size:		
SME[3]	29	*43%*
Large[4]	38	*57%*

Note:

#1: SOE: State Owned Enterprise

#2: FDI: Foreign Direct Invested company

#3: SME: number of employee < 300

#4: Large: number of employee > 300

#5: 6 companies operate in both Manufacturing and Service industry

Regarding to the survey, 67 usable questionnaires were received indicating the response rate of 26.7%. The description of respondents is shown in Table 3-1. In industry classification, a sector

was put into consideration is Public Service which was set aside from Service sector due to its specific characteristics. As mentioned, the reform of public service in Vietnam is taking place and adopting ISO 9000 certifications into government agencies, State management authorities is a must according to the Decision 144. The study also covered this sector as a particular applicant in Vietnam. The number of large companies participated into the survey accounted for 57%, bigger than that of SME (43%). The possible reason would be that respondents from those companies are more willing to give answers to the questionnaire. Companies got certification more than 5 years represent 54%. Together with companies with 3 to 5 years experiencing ISO 9000 certification, the number of companies got certification more than 3 years is 57, accounted for 85% of the respondents, as shown in Figure 3-1.

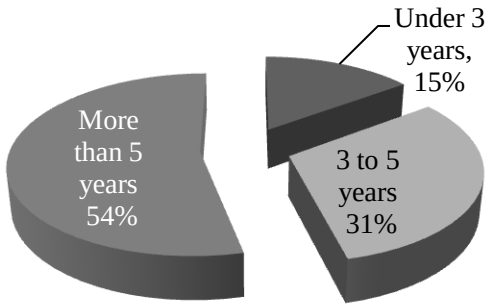

Figure 3-1 Composition of responded organizations by Time of certification

Information about time to develop the ISO 9000 system of organizations was collected to get more insight of ISO 9000 development process. The time of developing the system is a dependent variable on size of organization and, hence, will not be analyzed as an independent factor in the relationship with motivation and implementation process of ISO 9000. The composition of organizations according to time to develop ISO 9000 system is shown in Figure 3-2. Only 3 organizations (4%), which are small-sized companies, developed the system within 3 months. Organizations developed systems in more than 6 months accounted for 83%, of which 12

organizations (18%) spent more than 12 months.

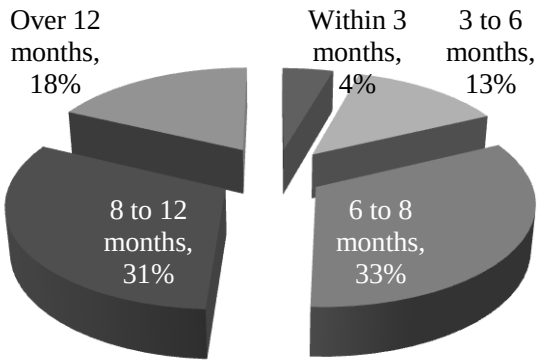

Figure 3-2 Composition of responded organizations by Time to develop ISO 9000 system

After the initial analysis of data collected from survey, interviews were organized through internet via Skype application to get more insights of the impact of motivation on ISO 9000 implementation process in Vietnam. Interviewees are quality professionals who have profound knowledge and experience in ISO 9000 field. Most of them have more than 8 year experience with ISO 9000. Targeted quality professionals are 2 quality managers (one from a manufacturing company and one from a service company), 2 quality auditors from prestigious Certification bodies (one from Bureau Veritas Certification and the other from TUV Nord), 2 consultants from a leading consulting firm. The interview lasted haft hour on average. Interviewees discussed about the question "How motivational factors impact on the implementation process of ISO 9000 system of certified organizations in Vietnam?". The interviews were taken place as open discussions and content was noted for further qualitative analysis purpose. The interviewees asked to disguise their names. The QMRs and consultants asked to hide their organizations' names as well. Thus, the interview's content was more reliable as interviewees were comfortable in expressing their opinions.

3.2 DATA ANALYSIS

The data collected by both methods, survey and then interview, was treated differently as for

quantitative and qualitative analysis. In order to get more insights of the motivation underlying ISO 9000 certification adoption and implementation process, after the overall analysis, analysis in depth was performed according to industry, size of organization, and time of certification. The following sections present the analysis's results.

3.2.1 Motivation for the adoption of ISO 9000 certification in Vietnam

The rating scheme for motivation assessment is ranking from 1 to 10 respectively to highest priority and lowest priority for the 10 motivational factors. The lower the score the higher the priority of motivation. Table 3-2 shows the listed motivational factors in ascending order by their average score. Classification of internal and external motivation factors is shown in column Type. The total number of cases is 67 for all motivational factors means that no missing case for any item was found. Satisfying customers' request (MO3) is in the first rank showing the strongest motivation of sampled organizations in the adoption of ISO 9000 certification. Satisfying customers' request belongs to external motivation group. In essence, ISO 9000 system is to ultimately help the organization satisfying customers as stated in the first out of eight Quality Management Principles - Customer Focus: "Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations." (ISO 9000:2005). Hence, considering Satisfying customers' request (MO3) critical is not unreasonable.

For an in-depth analysis of motivational factors, organizations are categorized into three groups according to their industry, size and time of certification. Since the groups with small number of cases would not be representative and meaningful for data analysis (for example, public service organizations have only 6 cases and totally choose Satisfying governmental policies as the first priority), they are re-grouped to form bigger groups with considerable number of cases. The Industry group shrinks to 2 sub-groups, industry and service. Likewise, the group Time of certification has 2 sub-groups, Less than 5 years and More than 5 years.

Table 3-2 Motivation for ISO 9000 certification adoption

	Motivational factors	Type	N	Mean	Std. Deviation
MO3.	Satisfying customers' request	E	67	2.761	2.016
MO1.	Improving corporate procedures and organizational standards	I	67	2.970	1.291
MO2.	Improving Product/Service quality	I	67	3.164	1.344
MO4.	Promoting corporate image	I	67	3.478	1.673
MO7.	Reacting to pressure from competitors	E	67	6.313	1.860
MO9.	Reducing manufacturing/service operating cost	I	67	6.403	1.679
MO5.	Following the behavior of market	E	67	6.746	1.870
MO8.	Satisfying governmental policies	E	67	6.851	3.253
MO6.	Developing/Enlarging international market	I	67	7.403	2.680
MO10.	Improving employee satisfaction	I	67	8.910	1.288

Note: I: Internal Motivation; E: External Motivation

Table 3-3 shows the means of motivational factors across groups of organizations. Organizations in industry sector were triggered by external motivation, satisfying customers' request, while organizations in service sector were driven by internal motivation, i.e. improving corporate procedures and organizational standards, in pursuing ISO 9000 certification. Both large organizations and SMEs in the classification by size of organization are externally motivated by customers' request in the decision of ISO 9000 adoption. Difference exists between organizations with less than 5 years of certification and those with more than 5 years when choosing external motivation (satisfying customers' request) and internal motivation (promoting corporate image) respectively in the strongest motivation for ISO 9000 adoption. The result also reveals that improving employees' satisfaction is often in the last priority. In general, most of sub-groups in different classifications agree that customers' request is the strongest driver for the decision of adopting ISO 9000 certification supporting the conclusion that organizations in Vietnam are driven by external motivation – customers' request – in pursuing the ISO 9000 certification.

Table 3-3 Means of motivational factors among different categories

	Motivational factors		General	Industry		Size of organization		Time of certification	
				Industry	Service	SMEs	Large Organization	Less than 5 years	More than 5 years
		Type	N = 67	N = 48	N = 19	N = 29	N = 38	N = 46	N = 21
MO3.	Satisfying customers' request	E	2.761*	2.250*	4.053	3.172*	2.447*	2.478*	3.381
MO1.	Improving corporate procedures and organizational standards	I	2.970	3.229	2.316*	3.241	2.763	2.957	3.000
MO2.	Improving Product/Service quality	I	3.164	3.042	3.474	3.517	2.895	2.870	3.810
MO4.	Promoting corporate image	I	3.478	3.646	3.053	3.207	3.684	3.717	2.952*
MO7.	Reacting to pressure from competitors	E	6.313	6.063	6.947	6.483	6.184	6.217	6.524
MO9.	Reducing manufacturing/service operating cost	I	6.403	6.292	6.684	6.310	6.474	6.217	6.810
MO5.	Following the behaviour of market	E	6.746	7.104	5.842	6.448	6.974	6.935	6.333
MO8.	Satisfying governmental policies	E	6.851	7.188	6.000	5.552	7.842	7.391	5.667
MO6.	Developing/Enlarging international market	I	7.403	6.938	8.579	8.655	6.447	7.283	7.667
MO10.	Improving employee satisfaction	I	8.910	9.250	8.053	8.414	9.289	8.935	8.857

Note: I: Internal Motivation; E: External Motivation
*: the strongest motivation
N: number of cases

3.2.2 Implementation Performance of ISO 9000

Implementation Process of ISO 9000 is translated into 16 statements which are expressed in an assertive manner and ask the respondents to agree or disagree with. One-sample t-tests were conducted with the test value equal to 3. Since the rating scale is from 1 to 4 respectively to strongly disagree and strongly agree, the score of 3 means agree and is the margin that the study expects to examine. The null hypothesis is that the average score is 3 and the alternative hypothesis is that the average score is greater than 3. All t-tests were performed with confidence level at 95% ($\alpha = 5\%$). Table 3-4 shows the summarized results of t-tests on implementation performance with the average scores listed in descending order. The results show that the t-tests fail to reject the null hypothesis for items IP12, IP6, IP5, IP13, IP10, IP3, IP8 with Sig.(2-tailed) values greater than 0.05. In other words, implementation performance is not significant for Education and training started from upper managers and went down to all employees; A special department responsible for documents management was established; Internal auditors were constantly educated and trained; Continuous audits were performed in every department; There was a low degree of bureaucracy while implementing ISO 9000; and All employees were highly involved in implementing ISO 9000. In general, the results show a positive picture of ISO 9000 implementation performance with little obstacle when all the 9 significant factors have average score greater than 3.

Insights of ISO 9000 implementation performance were attained by comparing means of implementation factors between sub-categories as shown in Table 3-5. Means of implementation factors across sub-categories shows the differences in the level of implementation performance. With expected value of means equal or higher than 3 (agree with the statement), the result of mean less than 3 indicates that the implementation factor is under performed. The under-performed factors are marked with bold and italic figures in Table 3-5. Comparison among mean values of implementation factors of sub-categories of Motivation, internal motivation and external motivation, doesn't show significant difference. Organizations with external motivation in the adoption of ISO 9000 seem to have slightly better implementation performance than organizations with internal motivation when having only one factor with mean value less than 3 (the IP8 - All employees were highly involved in

implementing ISO 9000).

Table 3-4 T-tests of Implementation factors

	Implementation factors	N	Mean	SD	Sig. (2-tailed)
IP15.	Customer complaints were used as a manner to initiate improvements in process	67	3.478	0.533	.000*
IP1.	Upper managers fostered a sense of involvement and commitment from all employees	67	3.418	0.700	.000*
IP2.	Upper managers clearly announce quality policies to all employees	67	3.403	0.719	.000*
IP9.	Documentation was done by corresponding staff	67	3.284	0.647	.001*
IP4.	All employees were willing to coordinate with each other	67	3.269	0.617	.001*
IP14.	Employees' training and evaluation were recorded and filed	67	3.239	0.605	.002*
IP16.	Customer satisfaction measurement was organized periodically	67	3.239	0.720	.008*
IP11.	Employees adhered to ISO procedures and work instructions	67	3.209	0.616	.007*
IP7.	An inter-departmental team was established to implement ISO 9000	67	3.164	0.665	.047*
IP12.	Education and training started from upper managers and went down to all employees	67	3.164	0.709	.062
IP6.	A special department responsible for documents management was established	67	3.164	0.771	.086
IP5.	Internal auditors were constantly educated and trained	67	3.134	0.716	.129
IP13.	Continuous audits were performed in every department	67	3.104	0.741	.253
IP10.	There was a low degree of bureaucracy while implementing ISO 9000	67	3.045	0.706	.605
IP3.	First-line employees received systematized education and training	67	3.030	0.627	.698
IP8.	All employees were highly involved in implementing ISO 9000	67	2.955	0.614	.552

Under the classification of Industry, both industry and service sectors have good implementation performance with only one item of industry sector have mean value less than 3 (IP8). The apparent difference is shown between large organizations and SMEs. While large organizations have good performance at all factors, SMEs have 11 out of 16 factors under-performed. The SMEs seem having difficulties in implementing ISO 9000. Organizations classified by time of certification also have differences in the implementation performance. Organizations with time of certification less than 5 years have good performance with all means of factors greater than 3. Contrarily, organizations with time of certification more than 5 years have 10 out of 16 factors under-performed. The results show a paradox in organizations in the aspect of time of ISO 9000 application that the longer time of application, the worse performance in implementation. A cross check between size of organization and time of certification shows that out of 38 large organizations, 30 (78.9% of large organizations) organizations have certification time less than 5 years and 13 SMEs (44.8% of SMEs) have time of certification more than 5 years. The cross check would explain the reason of similar results between two classification of organizations – size of organization and time of certification of organizations – is that the majority of large organizations (which have good implementation performance) belongs to the group of organizations with time of certification less than 5 years, contributing to the results of the latter group in ISO 9000 implementation performance. In summary, the analysis of implementation performance shows a positive result for the sampled organizations. The classification of organization by size reveals a significant difference in results of implementation between SMEs and large organizations showing that SMEs have difficulties in implementing the ISO 9000 system.

Table 3-5 Means of implementation performance factors among different categories

	Implementation factors	General	Motivation		Industry		Size		Time of certification	
			Internal	External	Industry	Service	SMEs	Large Org.	Less than 5 years	More than 5 years
		N = 67	N = 26	N = 41	N = 48	N = 19	N = 29	N = 38	N = 46	N = 21
IP15.	Customer complaints were used as a manner to initiate improvements in process	3.478	3.346	3.561	3.521	3.368	3.172	3.711	3.587	3.238
IP1.	Upper managers fostered a sense of involvement and commitment from all employees	3.418	3.462	3.390	3.479	3.263	3.034	3.711	3.609	3.000
IP2.	Upper managers clearly announce quality policies to all employees	3.403	3.423	3.390	3.479	3.211	***2.966***	3.737	3.587	3.000
IP9.	Documentation was done by corresponding staff	3.284	3.269	3.293	3.271	3.316	3.000	3.500	3.435	***2.952***
IP4.	All employees were willing to coordinate with each other	3.269	3.154	3.341	3.333	3.105	3.034	3.447	3.413	***2.952***
IP14.	Employees' training and evaluation were recorded and filed	3.239	3.115	3.317	3.188	3.368	3.000	3.421	3.326	3.048
IP16.	Customer satisfaction measurement was organized periodically	3.239	3.038	3.366	3.292	3.105	***2.931***	3.474	3.304	3.095
IP11.	Employees adhered to ISO procedures and work instructions	3.209	3.077	3.293	3.208	3.211	***2.931***	3.421	3.326	***2.952***
IP6.	A special department responsible for documents management was established	3.164	***2.846***	3.366	3.104	3.316	***2.793***	3.447	3.304	***2.857***

IP7.	An inter-departmental team was established to implement ISO 9000	3.164	3.231	3.122	3.188	3.105	***2.966***	3.316	3.217	3.048
IP12.	Education and training started from upper managers and went down to all employees	3.164	3.077	3.220	3.125	3.263	***2.828***	3.421	3.326	***2.810***
IP5.	Internal auditors were constantly educated and trained	3.134	3.077	3.171	3.188	3.000	***2.828***	3.368	3.326	***2.714***
IP13.	Continuous audits were performed in every department	3.104	***2.962***	3.195	3.125	3.053	***2.724***	3.395	3.283	***2.714***
IP10.	There was a low degree of bureaucracy while implementing ISO 9000	3.045	***2.962***	3.098	3.042	3.053	***2.793***	3.237	3.174	***2.762***
IP3.	First-line employees received systematized education and training	3.030	3.077	3.000	3.000	3.105	***2.862***	3.158	3.174	***2.714***
IP8.	All employees were highly involved in implementing ISO 9000	***2.955***	3.000	***2.927***	***2.917***	3.053	***2.759***	3.105	3.109	***2.619***

Note: N: number of cases

3.2.3 Maintenance performance analysis

The maintenance of ISO 9000 concerns the post certification period when the system was in place and evolved on the continuous improvement journey. Similar to implementation process, bipolar comparison scale was used for respondents' judgment on 6 maintenance assertive statements from 1 to 4. The one-sample t-tests were again conducted with the test value equal to 3. The null hypothesis is that the average score is 3 and the alternative hypothesis is that the average score is greater than 3. All t-tests were performed at a 95% (α = 5%) confidence level. Table 3-6 shows the summarized results of t-tests on maintenance performance with the average scores listed in descending order. The results show that the t-tests fail to reject the null hypothesis for factors M3 and M4 (Sig.(2-tailed) values greater than 0.05), meaning that employees' understanding of corrective action procedure and employees' awareness of internal audits' results are not significant for the maintenance performance. Factors M5 and M6 are significant for the maintenance performance and have average score lower than 3, meaning that the communication of internal audit results and corrective actions, which is vital for preventing the reoccurrence of nonconformance, is under-performed. The results show that organizations which participated in the survey are likely having potential issues in maintaining their ISO 9000 systems.

Table 3-7 shows the comparison of means of maintenance factors between sub-categories. The answer of 3 means agree with the statement and is set to be the expected value of means for the cut-off point for comparison. Maintenance factor with mean value less than 3 is considered under-performance and symbolized by italic number. The maintenance factors are listed in the descending order by the General column. In the category of motivation, organizations driven by internal motivation in ISO 9000 adoption have means of four items less than 3 while organizations driven by external motivation have means of three items less than 3. Employees of internally motivated organizations do not fully understand the corrective action procedure. The common issue of both sub-categorized organizations is inherent in internal quality audit. Industry sector and service sector have similar pattern in maintenance process. While industry sector has a slightly better performance in factor M4 (All employees understand corrective action procedure) service sector has

better performance in factor M3 (All employees are aware of internal audits' results).

Table 3-6 T-tests of Maintenance performance factors

	Maintenance factors	N	Mean	SD	Sig. (2-tailed)
M2.	ISO documentation reflects what employees actually do	67	3.284	0.714	.002*
M1.	All employees understand how to use related ISO procedures	67	3.254	0.704	.004*
M4.	All employees understand corrective action procedure	67	3.015	0.844	.885
M3.	All employees are aware of internal audits' results	67	2.940	0.715	.497
M5.	Feedback from internal audit's results is effectively/equally communicated to upper managers and all employees	67	2.791	0.640	.010*
M6.	Internal corrective action analysis is effectively communicated throughout the organization	67	2.507	0.587	.000*

Significant difference exists between large organizations and SMEs. Mean values of all maintenance factors of large organizations are greater than those of SMEs. Large organizations have two factors with mean values less than 3 in the internal audit communication while SMEs have all the mean values less than 3. The result shows that SMEs have been struggling with ISO 9000 maintenance process and the maintenance performance of SMEs is much worse than that of large organizations. Comparison in the classification of time of certification reveals that organizations with certification time less than 5 years have better performance than organizations with time of certification more than 5 years. The latter sub-category has 5 out of 6 maintenance factors under-performed with mean values less than 3. The remaining factor has mean value equal to 3. The possible reason for the similar pattern between classification by size and classification by time of certification is, as explained in the analysis of implementation performance, the majority of large organizations have less than 5 years of certification.

Table 3-7 Means of maintenance performance factors among different categories

		General	Motivation		Industry		Size		Time of certification	
			Internal	External	Industry	Service	SMEs	Large Org.	Less than 5 years	More than 5 years
		N = 67	N = 26	N = 41	N = 48	N = 19	N = 29	N = 38	N = 46	N = 21
M2.	ISO documentation reflects what employees actually do	3.284	3.154	3.366	3.250	3.368	*2.828*	3.632	3.413	3.000
M1.	All employees understand how to use related ISO procedures	3.254	3.192	3.293	3.292	3.158	*2.862*	3.553	3.413	*2.905*
M4.	All employees understand corrective action procedure	3.015	*2.846*	3.122	3.042	*2.947*	*2.517*	3.395	3.217	*2.571*
M3.	All employees are aware of internal audits' results	*2.940*	*2.885*	*2.976*	*2.896*	3.053	*2.517*	3.263	3.000	*2.810*
M5.	Feedback from internal audit's results is effectively/equally communicated to upper managers and all employees	*2.791*	*2.769*	*2.805*	*2.792*	*2.789*	*2.552*	*2.974*	*2.913*	*2.524*
M6.	Internal corrective action analysis is effectively communicated throughout the organization	*2.507*	*2.385*	*2.585*	*2.521*	*2.474*	*2.241*	*2.711*	*2.630*	*2.238*

Note: N: number of organizations (cases)

3.2.4 Barriers in implementation and maintenance of ISO 9000 system

Barriers to a successful implementation of an ISO 9000 system are dictated in 6 statements. Out of 6, Lack of commitment from Certification body (B5) and Auditors of Certification body were not competent (B6) are external constraints from certification body and auditors. The study tries to measure the impact from one of key stakeholders in the ISO 9000 industry, certification body, on the implementation process of ISO 9000 (including pre- and pos- certification). One-sample t-tests were conducted with the test value equal to 2.5. Since the rating scale is from 1 to 4 respectively to strongly disagree and strongly agree, the score of 2.5 is the margin that the study is interested to examine. The null hypothesis is that the average score is 2.5 and the alternative hypothesis is that the average score is smaller than 2.5. Since the expectation is that organizations have less barriers in the implementation process of ISO 9000, the lower score (disagree with statements) the less barrier level the organization encounters. All t-tests were performed with confidence level at 95% ($\alpha = 5\%$). Table 3-8 shows the summarized results of t-tests on barrier factors with the average scores listed in descending order. The results show that the t-tests fail to reject the null hypothesis for factors B1, meaning that the lack of human and financial resources is not significant to the barriers in the implementation process of ISO 9000. The increases of rules, regulations and paper works (B3 and B2) are major barriers since they are significant and have average scores greater than 2.5.

Table 3-8 T-Tests of Barrier factors

	Barriers in implementation process of ISO 9000	N	Mean	SD	Sig. (2-tailed)
B3.	Increase rules and regulations	67	2.925	0.401	.000*
B2.	Increase paper work	67	2.642	0.569	.046*
B1.	Lack of human and financial resources	67	2.433	0.802	.495
B6.	Auditors from Certification body were not competent	67	2.343	0.565	.027*
B4.	Employees complaint about documentation	67	2.328	0.533	.011*
B5.	Lack of commitment from Certification body	67	2.194	0.468	.000*

For a more comprehensive illustration, Figure 3-3 shows that increased rules and regulations (B3) is a prominent barrier with 88.1% respondents strongly agree/agree with. Following up B3 is B2 (increase paper work – 62.7%) and B1 (lack of human and financial resources – 47.8%). Though B5 and B6 (external barriers) are less concerned, 29.9% of respondents agree that auditors of certification body are not competent is considerable.

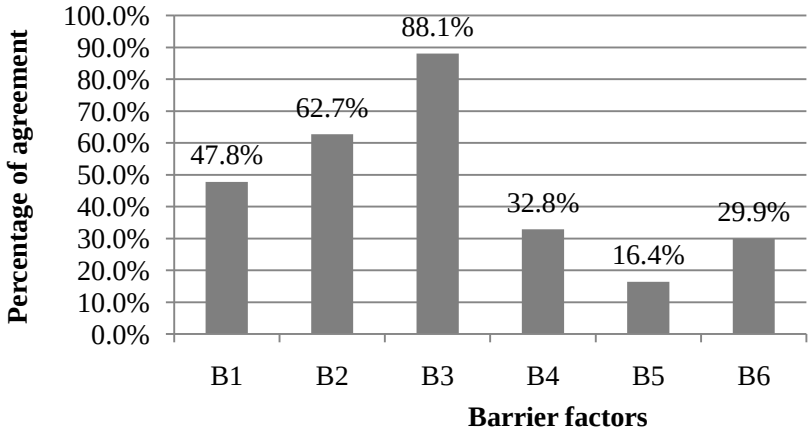

Figure 3-3 Agreement with barrier factor statements

Comparison of means is shown in Table 3-9. Mean values which are greater than 2.5 are highlighted in italic figures to denote the high level of barrier in the ISO 9000 implementation. Organizations adopted ISO 9000 certification because of external forces have less tension with barriers than organizations chose ISO 9000 to fulfill internal needs at all barrier factors. The finding is contrarily to many literatures concluding that organizations with internal motivation in ISO 9000 certification adoption have less constraints than those adopted ISO 9000 certification by external forces. Organizations in industry sector have more difficulty in human and financial resources than organizations in service sector. While large organizations have encountered problems with increasing rules and regulations and paper works, SMEs have tensions at almost every barrier. SMEs emphasized the lack of human and financial resources with 75.9% of SMEs reported that barrier. Organizations in the classification by time of certification do not have much different between two sub-categories.

Table 3-9 Means of barrier factors among different categories

		General	Motivation		Industry		Size		Time of certification	
			Internal	External	Industry	Service	SMEs	Large Org.	Less than 5 years	More than 5 years
		N = 67	N = 26	N = 41	N = 48	N = 19	N = 29	N = 38	N = 46	N = 21
B3.	Increase rules and regulations	*2.925*	*2.962*	*2.902*	*2.917*	*2.947*	*2.897*	*2.947*	*2.957*	*2.857*
B2.	Increase paper work	*2.642*	*2.846*	*2.512*	*2.583*	*2.789*	*2.690*	*2.605*	*2.543*	*2.857*
B1.	Lack of human and financial resources	2.433	*2.538*	2.366	*2.542*	2.158	*2.862*	2.105	2.370	*2.571*
B6.	Auditors from Certification body were not competent	2.343	2.423	2.293	2.354	2.316	*2.517*	2.211	2.348	2.333
B4.	Employees complaint about documentation	2.328	2.385	2.293	2.271	2.474	*2.552*	2.158	2.261	2.476
B5.	Lack of commitment from Certification body	2.194	2.269	2.146	2.188	2.211	2.414	2.026	2.130	2.333

Note: N: number of organizations (cases)

3.2.5 Tests of Independence between factors

The second objective of the study is to discover the relationship between motivation and implementation process of ISO 9000 and is extended to uncover the relationship between factors which were illustrated in the conceptual model (Figure 2-5). Pearson's Chi-square tests were used to test the existence of relationships between factors. All tests were performed at a 95% confidence (α = 5%). The hypotheses were that relationships exist between Motivation and Implementation performance (H1); Motivation and Maintenance performance (H2); Motivation and Barriers (H3); Industry and Motivation (H4); Industry and Implementation, Maintenance, Barriers (H4a,b,c); Size of organization and Motivation (H5); Size of organization and Implementation, Maintenance, Barriers (H5a,b,c); Time of certification and Motivation (H6); Time of certification and Implementation, Maintenance, Barriers (H6a,b,c). In order to conduct the Pearson's Chi-square tests, implementation performance, maintenance performance and barrier to ISO 9000 implementation of an organization were synthesized into positive and negative performance. The performance is considered as positive if the average score of performance factors is equal or greater than 2.5 and is considered negative if the average score is smaller than 2.5. Regarding to barrier, if the average score of barrier factors is smaller than or equal to 2.5, the result of barrier assessment is considered positive and vise versa. Since the rating scale is from 1 to 4, 2.5 is the average and considered as the cut-off point for the tests. Results of Pearson's Chi-square tests are shown in the following sections.

The null hypothesis for Pearson's Chi-square test of Motivation and implementation performance is that $H1_0$: Motivation and implementation performance are independent. Table 3-10 shows one result of the test which indicates that 2 cells of the Negative column have expected count less than 5, meaning that the condition for the Pearson's Chi-square test was not satisfied (80% of cells must satisfy "expected count is greater than 5") and that the test is not suitable for the circumstance. Since the total number of negative cases in implementation performance is 6 (only six organizations have negative implementation performance), the tests between Implementation performance and other factors do not satisfy condition of Pearson's Chi-square test and will not be analyzed. The test between size of organization and maintenance performance does not satisfy the

condition of Pearson's Chi-square test and will also not be analyzed. In short, statistically, relationships between implementation performance and motivation, industry of organization, size of organization, and time of certification of organization; and size of organization and maintenance do not have enough evidence to confirm the existence (hypotheses H1, H4a, H5a, H5b, H6a are rejected).

Table 3-10 Motivation for ISO 9000 and Implementation Process Crosstabulation

			Implementation Process		Total
			Negative	Positive	
Motivation for ISO 9000	Internal	Count	1	25	26
		Expected Count	2.3	23.7	26.0
		% within Motivation for ISO 9000	3.8%	96.2%	100.0%
	External	Count	5	36	41
		Expected Count	3.7	37.3	41.0
		% within Motivation for ISO 9000	12.2%	87.8%	100.0%
Total		Count	6	61	67
		Expected Count	6.0	61.0	67.0
		% within Motivation for ISO 9000	9.0%	91.0%	100.0%

Only tests that satisfy conditions of Pearson's Chi-square test were performed. Results of Pearson's Chi-square tests are shown in table 3-11. The test result for the independency of Motivation and Barrier shows that the value of Sig. (2-sided) is 0.049 (smaller than 0.05) meaning that the null hypothesis that two factors are independent is rejected. In other word, statistically, relationship exists between Motivation and Barriers in the implementation process of ISO 9000 system while pursuing the certification, hypothesis H3 is accepted. Similarly, the Pearson's

Chi-square test's Sig. (2-sided) result between Size of organization and Barriers in the implementation process of ISO 9000 (0.001) is smaller than 0.05, showing that relationship exists, hypothesis H5c is accepted statistically. The test result of independency between Time of certification and Maintenance also demonstrates the existence of relationship between them, hypothesis H6b is accepted. The remaining 7 tests have Pearson's Chi-square values greater than 0.05 means that hypotheses H2, H4, H4b, H4c, H5, H6, and H6c are rejected.

Table 3-11 Summary of Pearson's Chi-square test results

	Hypotheses	Sig. (2-sided) values
1.	Motivation and Maintenance performance (H2)	0.273
2.	Motivation and Barrier (H3)	0.049*
3.	Industry and motivation (H4)	0.836
4.	Industry and Maintenance performance (H4b)	0.766
5.	Industry and Barrier (H4c)	0.974
6.	Size of organization and Motivation (H5)	0.377
7.	Size of organization and Barrier (H5c)	0.039*
8.	Time of certification and Motivation (H6)	0.123
9.	Time of certification and Maintenance (H6b)	0.035*
10.	Time of certification and Barrier (H6c)	0.343

3.3 SUMMARY OF KEY FINDINGS AND DISCUSSIONS ABOUT ANALYSIS RESULTS

The results of various analyses conducted above and the content of interviews are summarized in the following section. Interviews were to get more insights of the application of ISO 9000 and probe further the initial findings of survey.

3.3.1 External motivation is the main driver for ISO 9000 certification adoption

The study reveals that the strongest motivation underlying the ISO 9000 certification adoption for the majority of certified organizations in Vietnam is external motivation, namely "satisfying customer's request". In essence, the ultimate goal of quality management system in

accordance with ISO 9000 series is to satisfy the customer. Thus, satisfying customer is considered the first and foremost important driver for pursuing ISO 9000 certification is not unreasonable. The finding contributes additional voice in the inconsistent conclusions in literature. Literature that support the finding includes Carlsson and Carlsson[12], 1996; Rao *et al.*[38], 1997; Jones *et al.*[25], 1997; Huarng *et al.*[22], 1999; Acharya and Ray[1], 2000; Yahya and Goh[48], 2001; Najmi and Kehoe[34], 2001; Terziovski *et al.*[44], 2003; Bhuiyan and Alam[6], 2005. An extreme case was found is that public service organizations participated in the survey totally chose satisfying government's policies as the driving force for the adoption of ISO 9000 certification. The possible reason is public service organizations pursue ISO 9000 certification solely because they were forced by the Decision 144 of the Prime Minister. In the detailed analysis with sub-groups, even though improving product/service quality was highly prioritized with consistent rating (standard deviation is 1.344, second smallest), no sub-groups chose improving product/service quality as the strongest motivation. Satisfying customers' request was asserted at the first priority.

3.3.2 No relationship exists between motivation and implementation process

The yielded results from data analysis of survey could not demonstrate that a positive relationship exists between motivation and implementation process of ISO 9000. The condition of Pearson's Chi-square test could not be satisfied for the test of independency for motivation and implementation performance. At the same time, the Pearson's Chi-square test conducted for motivation and maintenance performance also showed that no relationship exists between motivation and maintenance performance. Additionally, the study and interviews discovered that the terminology "motivation" should be well defined. Different definitions of motivation, for instance "the psychological feature that arouses an organism to action toward a desired goal" (WordNet.com) or "any wish, desire, or preference that concerns the outcome of a given reasoning task" (Kunda, 1990 cited in Jang and Lin[47], 2007), turn out that the "motivation" is not a constant factor but changing over time. Jang and Lin[47] (2007) noted that external motivation may transform into internal motivation. Motivation is only constant at a certain point of time. The motivation at the time of

deciding to adopt ISO 9000 system may be different from the motivation at the time of implementation, and not necessary be the same as at the time of answering the questionnaire of the research, in both type and level of motivation. The finding may explain the reason why studies in this topic yielded different, even contradict, conclusions. An example from a manufacturing company showed that at the beginning, the company wanted to apply ISO 9000 for the purpose of improving quality of product (internal motivation). During the process of building the system, the company found that a genuine ISO 9000 was not as easy as they had thought. Under the pressure of completing the ISO 9000 project from consultants, together with the pressure of work load in the peak season (external motivation), the company decided to get certified as soon as they could. Document system was then simplified and reduced significantly to accelerate the project. The company got certification but the initial objective was given up. After some years, when familiar with the ISO 9000 system and got certain benefits, the company decided to upgrade the system which is more focus on quality (internal motivation again). The changing of motivation over time may cause bias to the responses in the survey that statistical analysis in this study could not find a relationship existing between motivation and implementation process of ISO 9000.

3.3.3 Relationships exist between Motivation and Barrier, Size of organization and Barrier, and Time of certification and Maintenance

Statistical analysis has proved the existence of relationship between motivation underlying ISO 9000 certification adoption of organizations and barriers which organizations encounter during the process of implementing and maintaining the ISO 9000 system. The Pearson's Chi-square test would not show how the relationship is because of the nature of the test. The supplemental analysis shows that 73.1% of organizations which are internally motivated in ISO 9000 certification adoption have high barrier while 48.8% of external motivated organizations have reported a high barrier in ISO 9000 implementation. The relationship also exists between size of organization and the barriers which organizations encountered during the process of implementing and maintaining ISO 9000 system. In detail, 72.4% of SMEs encountered high barrier and 47.4% large organizations had

negative report in having high barriers. Despite the fact that Barrier have relationship with both Motivation and Size of organization, statistical analysis could not find a relationship exists between Motivation and Size of organization. Additionally, the relationship was found existing between the Time of certification and Maintenance performance. While 73.9% of organizations which have certification less than 5 years had positive maintenance performance, 52.4% of organizations which have certification more than 5 years had negative result in maintenance performance. The finding reveals that the longer time the organizations have certification, the worse performance the organizations have in maintaining the ISO 9000 system. The finding also shows that the implementation process of ISO 9000 is influenced by inherent characteristics of organization, the size of organization and the time of certification. The relationships found in the study would be predictors for the ISO 9000 industry.

3.3.4 SMEs have a poor implementation performance and many constraints

SMEs have difficulties in implementing the ISO 9000 system, struggle in maintaining the system when encountering many constraints. SMEs have 11 out of 16 implementation factors (68.75%) and 100% maintenance factors under-performed. SMEs have tensions at almost every barrier. SMEs have been struggling with ISO 9000 system in order to maintain the certification. As found in SMEDEC's study[43] (2007), SMEs' perception about ISO 9000 is limited at "easier in selling product/service" when having certificate. SMEs strive to maintain the certification regardless other benefits and implications of the standards, and pay no attention to the problems that arise, believing that certification will be a panacea for all. Once there were no obvious direct benefits, they began casting doubts on the standards (Conti, 2004 cited in Zeng, Tian and Tam[40], 2007).

The in-depth analysis of implementation performance shows that only SMEs among other sub-groups have a factor of management commitment under-performed. Interviews with quality professionals shows that management of organizations are often misunderstanding of ISO 9000 standards, over expecting of benefits from ISO 9000 certification while underestimating the volume of work in building and maintaining the ISO 9000 system. The perception of management about ISO

9000 is very important and critical to the level of commitment to the system throughout the development process to implementation process and maintenance process. The commitment and involvement of top management, which is not necessarily parallel with motivation, decides the depth of implementation. Commitment and involvement of management must be transformed into actions in order to motivate the entire organization involving in ISO 9000 implementation. ISO standards, not by chance, put leadership in the second position of eight quality principles and reserve the section 5 for management responsibility in ISO 9001 standard. The level of management commitment decides the successful of implementation process. Compare with SMEs, large organizations in Vietnam have some advantages in applying ISO 9000 in the aspects of human and financial resources, and well structured organization. Large organizations are easier in implementing ISO 9000 or garnering benefits from the system than SMEs, whose more informal structure and relationships are not necessarily well adapted to such a formalized management system (Briscoe *et al.*[7], 2005; Calisir *et al.*[11], 2001; Gustafsson *et al.*[20], 2001; Lee and Palmer[28], 1999). Implication of the finding is for the SMEs who are trying to make decision on whether to adopt ISO 9000 system or not.

3.3.5 Lack of information would lead to misunderstand and mislead about ISO 9000

The lack of an official, unified and structured information source about ISO 9000 in Vietnam making the likely audiences misunderstand and even mislead about the benefits, implications and the standard itself of ISO 9000. The research on motivation and implementation process of ISO 9000 in Vietnam had difficulty in searching information and decided to conduct survey and interviews to collect primary data. Notably, information about ISO 9000 is provided by consulting firms and certification bodies who have intended purposes for their own interests. From such kind of channel, organizations are easily misled to perceive ISO 9000 as a panacea for all kind of problems in their business.

Additionally, in the common trend of decreasing in cost and time of developing and implementing ISO 9000 system, ISO 9000 is becoming easier to be approached to by organizations.

The interviews with quality professionals revealed that the total cost for an ISO 9000 certification, including consulting fee and initial certification fee, for a medium company with 100 employees is around 3,500 USD. If the organization intended to get the certificate for advertisement solely, the cost would be considerably lower (by using full package service or fly-in certification body). The cheap cost for ISO 9000 certification led organizations think of it as a small investment, a "piece of cake". Management, as a result, would not pay attention to the ISO 9000 system but to other bigger affair. The commitment and involvement of management to the system fade over time or even doesn't exist. In the interviews, auditors gave an example that top management of an SME even called ISO 9001:2000 by a totally wrong name, "ISO 9200", during the audit (possibly, the top manager just had a quick look at papers and went for the meeting with auditor without any understanding of ISO 9000).

3.3.6 Lack of regulator supervision, credibility of ISO 9000 certification is losing

Complementary to the above finding, the lack of supervision on the ISO 9000 industry, which is fiercer and fiercer in competition, is contributing to the erosion of certification credibility. STAMEQ with the mission to regulate accreditation and certification activities seems to be superficial in supervising and controlling the ISO 9000 certification industry (Mekong economics[32], 2007). Under such supervision, ethical issues are easily sprouting. With the increasing competition in the ISO 9000 certification industry, some certification bodies tend to pursue commercial benefits and consider it as the most important goal. Certification body offers full package from consulting (which is often hidden under the name of "training service") to certifying with very competitive fee. Consultancy firm and certification body have secret cooperation and under-table dealings to minimize cost, for example marketing cost, in business. According to the ISO rules, the roles of consultant and auditor must be separated, the rule of impartiality. The principle of independence in auditing also requires that the certification body and auditor should not serve as a consultant. However, some cases were found that, under the guarantee of the certification body, consulting company advised clients to adopt template documents other than develop the one suitable to their

needs, and even helped clients to make up records to meet the requirements of audit. Such fraudulent activities let many organizations attain ISO 9000 certification without any genuine effort to quality management. The quality of products or services from those certified organizations are unstable and, as a result, customers do not trust the ISO 9000 certificate anymore. An example is client of a certified company decided to re-apply the 100% inspection on the products and conduct periodical audit to the quality management system of that company after finding the unstable product quality with high defect rate. The ISO 9000 certification then has no value to the client anymore, meaning losing its credibility.

The fiercer competition in consultancy and certification services leads to a decreased quality of services and then affected to the quality of ISO 9000 system in certified organizations. Consultancy companies, as well as certification bodies, are competing by price. The consultancy fee for developing an ISO 9000 system for a medium manufacturing company with around 100 employees is about 30 million VND (approximately 1,570 USD), some freelance consultants might offer lower. Certification fee for that type of company is about 20 million VND (about 1,050 USD) with QUACERT, and about 2,000 USD to 2,500 USD with Bureau Veritas Certification (BVC) or TUV Nord. Surveillance auditing fee is normally one third of certification fee. Consultancy companies have no way but cut cost by decreasing the number of visits to client company and reducing the work load as much as possible. As for certification service, certification bodies must acquire and maintain as many clients as possible to compensate for the decreasing certification fee while they have to pay the expensive accreditation fee, about 100,000 USD annually. Corollary, credibility of ISO 9000 certification is deteriorating in such fierce competition under superficial control of regulator.

3.3.7 The lack of competent auditors

As the certification fee is decreasing, the certification body encounters the problem of attracting specialist and high qualified auditor and sub-auditor (part time auditor). Even international certification bodies, which pay higher mandate fee for their auditors and sub-auditors, could not

attract enough competent auditors to provide quality service to certified clients in Vietnam. An IRCA qualified lead auditor could find a job with higher remuneration than work full time or part time for a certification body. Result from the survey shows that 66.7% of organizations in construction sector disappointed with incompetent auditors from certification body. Construction sector is growing very fast in Vietnam and the government legislations including Laws, Decrees, Circulars and lower level of legal documents keep on changing to meet with management requirements. Certification bodies could hardly find enough competent auditors in the technical field as construction. In general, 29.9% of organizations participated in the research agreed the lack of competent auditors from certification bodies.

CHAPTER 4 CONCLUSION AND RECOMMENDATION

Chapter 4 gives conclusion basing on results of data analysis in Chapter 3 in light with the literature review presented in Chapter 2. Subsequently, recommendations are raised for a better application of ISO 9000 in Vietnam to related stakeholders.

4.1 FINDINGS FROM THE RESEARCH

The study attempts to understand the current application of ISO 9000 system in Vietnam in the aspect of motivation behind the certification adoption of organizations and the impact of motivation on the implementation process. Via a structured survey, interviews and statistical analysis tools (SPSS), main objectives of the study were achieved. Study reveals that external motivation is the main driver for organizations in Vietnam in pursuing ISO 9000 certification, and that motivation has no relationship with the implementation process, including implementation and maintenance performance. Statistically, motivation underlying ISO 9000 certification adoption has relationship with barriers that organizations may encounter during the implementation and maintenance of ISO 9000 system. In an attempt to get more insights of possible associations between factors which may have impact to the application of ISO 9000 system, statistical analyses were extensively conducted and results showed that relationship exists between size of organization and barriers that organizations encounter during the implementation and maintenance of ISO 9000 system. Additionally, relationship also exists between the time length that organizations have certification and the maintenance performance of ISO 9000 system.

The study reveals concerns for the implementation of ISO 9000 system in SMEs when showing that SMEs seem to have been struggling with the implementation and maintenance of ISO 9000 while pursing the certification. Constraints were found at high level for SMEs during the implementation process such as lack of commitment from top management as well as from employees, lack of human and financial resources which are critical to the success of ISO 9000 implementation. The common concern for all organizations participated in the study is in

maintenance of ISO 9000 system. While internal audit and corrective action are vital for the maintenance and improvement of ISO 9000 system, they seemed not to be applied adequately.

Initial findings from the survey, such as lack of information about ISO 9000, lack of competent auditors, and the poor performance of SMEs, triggered the need of conducting interviews to quality professionals to get more insights of the industry. In depth interviews and investigation contribute a more comprehensive picture in which the implementation of ISO 9000 is affected by environmental factors and from other stakeholders in the ISO 9000 industry including government authority, certification body and consultancy business. Some concerns are raised with hope to be solved for the better ISO 9000 implementation and outcomes as the proposals of ISO organization. The concerns include the misunderstanding about ISO 9000 due to the lack of information, the diminishing of ISO 9000 certification credibility due to the lack of supervision from government authority and the lack of competent auditors.

Regardless of all effort in carrying out the survey, limitation of data collection would make the bias in analysis unavoidable. The limitation of data hindered the quest of deeper analysis such as factor analysis was not made possible. The desire of analyzing the relationship between motivation and implementation process was not fulfilled. Additionally, assessing the impacts on ISO 9000 is a complex challenge that can hardly be addressed independently from the perceptions of the people involved in the implementation of the management system. Thus, interviews to other stakeholders (auditors and consultants) were organized to reduce the extent of bias and get more insights of the topic. The research would contribute to the body of knowledge on ISO 9000 in Vietnam so that companies who are trying to make decision whether to adopt ISO 9000 or not might find it useful.

4.2 RECOMMENDATIONS

Section 4.2 raises activities which are deemed to be appropriate for the improvement of ISO 9000 implementation in Vietnam. The first group of activities is about strengthening regulations and creating a transparent competitive market for a sustainable development of ISO 9000 industry (for external environment). The second group is recommendations for organizations who are trying to

make decision on ISO 9000 certification adoption and also for those who are already certified (for internal environment).

4.2.1 Government should strengthen the regulations and enforcement over the certification activities

As described in the summary of research findings in section 3.3.5 and 3.3.6, the supervision of state management authority (STAMEQ) over the certification and consultancy business seems superficial that would not ensure the impartiality of certification. At the moment, the competition is too fierce and exceeding in the ISO 9000 industry in both consultancy and certification services. Under such condition, fraudulent activities would occur and damage the industry. Hence, the regulator (STAMEQ) needs to effectively separate the consultancy and certification business and encourage a transparent competitive market for a sustainable development of ISO 9000 industry via stricter regulation and stronger enforcement. The Law on Quality and the Law on Standards are in place since 2007 and provide substantial framework for the regulations to be implemented. The needed activity is to enforce the existing regulations on the certification activity with tighter sanctions over the fraudulent activities. For example, if the certification is found illegal, the authority will revoke the business license of certification body and the company in questioned will lose the certificate. Since the current practice of accreditation is on voluntary basis, the Bureau of Accreditation (BoA) under STAMEQ has difficulties in monitoring and controlling certification bodies who do not register for accreditation. BoA should have more power in the accreditation management and supervision on registered certification bodies as well as unregistered certification bodies.

4.2.2 Competition by price should be eliminated to improve service quality

Certification bodies as well as consultancy firms should set up associations to stop fighting by price and enhance their service quality. Fighting by price and service quality reduction might ruin credibility and destroy the whole industry. Currently, a Productivity and Quality forum (P&Q) run

by Vietnam Productivity Center (under STAMEQ, and is a focal point of Vietnam in Asian Productivity Organization (APO) network) is a place for quality enthusiasts to share information and experience. The forum is still small and not popular but would possibly become a quality association if stakeholders in the industry strive for that. P&Q forum has been supported by STAMEQ and APO and, hence, has some advantages to be a quality association. The quality association would also be a place for training of quality related subjects including quality internal auditors, IRCA lead auditors to improve competency of auditors and quality professionals. Quality association would also be a comprehensive source of information about ISO 9000 in Vietnam where organizations can find all the reliable information they need including drawbacks. In complementary to the first recommendation, the competition by price would be stopped.

4.2.3 ISO 9000 system must serve the company

Many organizations, which are interested in ISO 9000 certification regardless of the potential problems in the changes of management, are struggling with their own management system in pursuing the certification. Actually, ISO 9001 requirements may not meet the needs, culture, management style or size of an organization, therefore, would bring some internal problems associated with certification. The findings show that SMEs in Vietnam have difficulties in maintaining the ISO 9000 system after certification. Possibly, SMEs are hardly serving their quality system so that it would yield a certificate for commercial purposes. A cheap cost for hiring consultant and inviting auditor might not be any cheap if the company carefully takes into account the entire burden it has to bear in maintaining the system. If the SMEs understand ISO 9000 standards with their principles and implications, and aware of the changes in organizational management, those constraints would not occur. When considering the application of ISO 9000, whether because of internal or external forces, company should learn, understand and master ISO 9000 including the drawbacks so that the quality management system will serve the company in achieving strategic goals.

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APPENDIX

ISO 9000 SURVEY

Dear Sir/Madam,

This survey is for my academic research on ISO 9000 application in Vietnam. The success of this research is entirely depended on the precious information provided by you. Through this research, I do hope to get insights of ISO 9000 application in Vietnam at present and might raise some recommendations for a more efficient and effective ISO 9000 application in the future.

Your information is highly appreciated and kept confidential. Should you need a final report of this survey, please circle this: Yes No

Thank you very much for your time

Sincerely yours,

Le Minh Tam

MBA candidate, Waseda Business School

Part I. General Information

G1. Your organization is operating in which industry?

Manufacturing	
Service	
Construction	
Public Service	

G2. Please choose the appropriate ownership of your organization

State owned enterprise	
100% FDI	
Joint Venture	
Joint Stock	
Private	

G3. When was your organization get ISO 9000 Certification?

Within 3 years	
More than 3 years	
More than 5 years	

G4. How long did your organization spend to develop ISO 9000 system (since kick-off to certification)

Less than 3 months	
3 to 6 months	
6 to 8 months	
8 to 12 months	
More than 12 months	

G5. Your main market is

Domestic	
International	
Domestic & International	

G6. The total number of your organization's employee? #

Around	

Part II. Details of your ISO 9000 system

Please prioritize the reasons your organization decided to adopt ISO 9000 from 1 (highest priority) to 10 (lowest priority) in the table I below

I. Motivation to adopt ISO 9000		Rank
MO1.	Improving corporate procedures and organizational standards	
MO2.	Improving product/service quality	
MO3.	Satisfying customers' requests	
MO4.	Promoting corporate image	
MO5.	Following the behaviour of markets	
MO6.	Developing/enlarging international markets	
MO7.	Reacting to pressure from competitors	
MO8.	Satisfying governmental policies	
MO9.	Reducing manufacturing/service operating costs	
MO10.	Improving employee satisfaction	

From II to IV, please indicate the extend to which you agree with the following statements:

1 =Strongly disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree; 0 = No idea/Not relevant

II. Implementation Process of ISO 9000		1	2	3	4	0
IP1.	Upper managers fostered a sense of involvement & commitment from all employees in pursuing ISO 9000					
IP2.	Upper managers clearly announced policies for quality control to all employees					
IP3.	First-line employees received systematized education & training					
IP4.	All employees were willing to coordinate with each other					
IP5.	Internal auditors were constantly educated and trained					
IP6.	A special department responsible for documents management was established					
IP7.	An inter-departmental team was established to implement ISO 9000					
IP8.	All employees were highly involved in implementing ISO 9000					
IP9.	Documentation was done by corresponding staff					
IP10.	There was a low degree of bureaucracy while implementing ISO 9000					
IP11.	Employees adhered to ISO procedures and work instructions					
IP12.	Education and training started from upper managers and went down to all employees					
IP13.	Continuous audits were performed in every department					
IP14.	Employees' training and evaluations were recorded and filed					
IP15.	Customer complaints were used as a manner to initiate improvements in the process					
IP16.	Customer satisfaction measurement was organized periodically					

III. Maintenance		1	2	3	4	0
M1.	All employees understand how to use the related ISO manual					
M2.	ISO documentation reflects what employees actually do					
M3.	All employees are aware of internal audits' results					
M4.	All employees understand corrective action procedures					

M5.	Feedback from internal audit results is effectively/equally communicated to upper management and all employees					
M6.	Internal corrective action analysis is effectively communicated throughout the organization					

IV. Barriers to Implementation Process		1	2	3	4	0
B1.	Lack of human and financial resources					
B2.	Increase paper work					
B3.	Increased rules and regulations					
B4.	Employees complaint about documentation					
B5.	Lack of commitment from Certification body					
B6.	Auditors of Certification body were not competent					

Your address: _____

Thank you very much for your participation!